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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,702	01/03/2002	Feng Gao	485800141DVA	7740
33204	7590	02/24/2004	EXAMINER	
VALENCE TECHNOLOGY, INC.			TSANG FOSTER, SUSY N	
301 CONESTOGA WAY			ART UNIT	
HENDERSON, NV 89015			PAPER NUMBER	

1745

DATE MAILED: 02/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/037,702

Applicant(s)

GAO ET AL.

Examiner

Susy N Tsang-Foster

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2003.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-16 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 13-16 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office Action is responsive to the amendment filed on 12/3/2003. Claims 14, 15, and 16 have been amended. Claims 13-16 are pending and are finally rejected for reasons necessitated by applicant's amendment.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 recites the limitation "the electrolyte" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "the solvent" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 15 recites the limitation "the electrolyte" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 15 recites the limitation "the solvent" in line 4. There is insufficient antecedent basis for this limitation in the claim.

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Claim 16 recites the limitation "the electrolyte" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 16 recites the limitation "the solvent" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Furthermore, in claims 13-16, it is unclear whether the dimethylacetamide or dialkylamide is considered part of the solvent of the electrolytic solution.

Claims depending from claims rejected under 35 USC 112, second paragraph are also rejected for the same.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 13-16 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kita et al. (U.S. Pat. No. 5,085,954).

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Kita et al. disclose an electrochemical cell having an electrolyte comprising a solute, solvent, and an additive, where the solute can be LiClO_4 , LiAsF_6 , or LiPF_6 (col. 1, lines 12-16), and the additive can be trialkylamine in combination with a dialkylamide such as N, N-dimethylacetamide (col. 2, lines 10-15 and col. 3, lines 33-63). The amount of the dialkylamide for stabilizing the lithium salt LiPF_6 is from 0.1 to 5 % by volume of the electrolytic solution (col. 3, lines 29-67). The electrochemical cell can be Li/MnO_2 such that LiMnO_2 (which is a lithium manganese oxide) is formed during cycling of the electrochemical cell. The LiMnO_2 inherently has a breakdown voltage of about 5 volts.

In comparative example 2 of the reference, 5% by volume N,N-dimethylacetamide in place of the tributylamine additive was added to the electrolytic solution of the electrochemical cell as prepared in the manner of example 1 (col. 5, lines 20-25). The electrochemical cell in comparative example 2 is a Li/MnO_2 electrochemical cell and the electrolytic solution was prepared by dissolving 0.5 mol/liter LiClO_4 and 0.1 mole/liter LiPF_6 in a mixed solvent of propylene carbonate (PC), tetrahydrofuran (THF), and 1,2-dimethoxyethane (DME) in a volume ratio of 1:1:1 (col. 4, line 57 to column 5, line 10). In a 100 ml of electrolytic solution, the volume of the N,N-dimethylacetamide would be 5 ml, and the volume of the PC, THF, and DME would each be approximately 31.7 ml. The total weight of the solvent excluding dimethylacetamide would be:

$$\text{density}_{\text{PC}} \times \text{vol}_{\text{PC}} + \text{density}_{\text{THF}} \times \text{vol}_{\text{THF}} + \text{density}_{\text{DME}} \times \text{vol}_{\text{DME}}$$

which is equal to

$$1.2057 \text{ g/ml} \times 31.7 \text{ ml} + 0.886 \text{ g/ml} \times 31.7 \text{ ml} + 0.8683 \text{ g/ml} \times 31.7 \text{ ml} = 38.22 \text{ g} + 28.08 \text{ g} + 27.53 \text{ g} = 93.83 \text{ g} = \text{total weight of solvent.}$$

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The weight of 5 ml of dimethylacetamide is $0.937 \text{ g/ml} * 5 \text{ ml} = 4.68 \text{ g}$ which is 5% by weight of the total weight of the solvent.

In the event that the dimethylacetamide is considered part of the solvent of the electrolyte, the weight percentage of dimethylacetamide in the solvent would be $4.68/98.51 * 100\% = 4.75\%$ by weight.

The dimethylacetamide additive in the electrolyte solution would inherently reduce the decomposition of the electrolyte solution and reduce the formation of gaseous constituents in the electrochemical cell compared to an identical electrochemical cell without the dimethylacetamide additive. The dimethylacetamide additive being a Lewis base also inherently neutralizes acid attack of the lithium salt. The dimethylacetamide additive in the electrochemical cell also inherently absorbs excess charge energy at a voltage less than the breakdown voltage of the cathode active material, i.e., lithium manganese oxide.

When the Examiner has reason to believe that functional language (in this instance, the dimethylacetamide reducing the decomposition of the electrolyte solution in the electrochemical cell, reducing the formation of gaseous constituents in the electrochemical cell compared to an identical electrochemical cell without the dimethylacetamide, neutralizing acid attack of the lithium salt, or absorbing excess charge energy at a voltage less than the breakdown voltage of the lithium manganese oxide active material) asserted to be critical for establishing novelty in claimed subject matter may, in fact be an inherent characteristic of the prior art as discussed above, the burden of proof is shifted to the applicant to prove that the subject matter shown in the prior art does not possess the characteristics relied upon. *In re Fitzgerald et al.* 205 USPQ 594.

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Finally, the court has held that claiming of a property or characteristic which is inherently present in the prior art does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). See also MPEP 2112 and 2112.01. When the Examiner has provided a sound basis for believing that the products of the applicant and the prior art are the same, the burden of proof is shifted to the applicant to prove that the product shown in the prior art does not possess the characteristics of the claimed product. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Response to Arguments

7. Applicant's arguments with respect to claims 13-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications should be directed to examiner Susy Tsang-Foster, Ph.D. whose telephone number is (571) 272-1293. The examiner can normally be reached on Monday through Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at (571) 272-1292.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

st/



Susy Tsang-Foster
Primary Examiner
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